Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for identifying a set of objects in a target application program, comprising:

a) receiving a plurality of samples of one or more object reference graphs, wherein each object reference graph comprises live objects and their references;

b) deriving a plurality of data structures from the samples;

c) determining a plurality of properties of each of the live objects in relation to data structures over time; and

d) using a mixture model, combining the plurality of the properties of each live object in a non-linear manner.

2. (Currently amended) The method of claim 1 further comprising ~~the step of~~ generating the object reference graph.

3. (Currently amended) The method of claim 1, further comprising ~~the step of~~ e) generating a rank.

4. (Currently amended) The method of claim 3, further comprising ~~the step of~~ identifying an initial set of highly-ranked candidate objects that are possible causes of at least one object leak, wherein the higher the ranking the smaller the identified set.

5. (Cancelled)

6. (Currently amended)The method of claim 1 further comprising ~~a step of~~ identifying suspicious regions that are likely to have leaks within the data structure.

7. (Currently amended) The method of claim 6 further comprising ~~a step of~~ determining an expected evolution of the suspicious regions.

8. (Currently amended)The method of claim 6 further comprising ~~a step of~~ tracking the actual evolution of the regions as the target application program runs.

9. (Currently amended) The method of claim 1 wherein ~~step~~ d) further comprises combining structural and temporal properties of the object reference graph.

10. (Currently amended) A computer readable medium for identifying a set of objects in a target application comprising instructions for:

a) receiving a plurality of samples of one or more object reference graphs, wherein each object reference graph comprises live objects;

b) deriving a plurality of data structures from the samples;

c) determining a plurality of properties of each of the live objects from the data structures; and

d) using a mixture model, combining the plurality of the properties of each object in a non-linear manner.

11. (Currently amended) An information processing system for identifying a set of objects in a target application comprising: an analyzer for ranking and generating co-evolving regions; a mixture model for combining a plurality of properties of each object in a non-linear manner; and a tracing agent for attaching to the target application.